Appendix F -- Salinity Conditions in the Loxahatchee Estuary (Based on Russell and McPherson (1984))

CONTENTS

Summary of salinity conditions in the Loxahatchee estuary during an extremely wet period following hurricane Dennis (August 20, 1981) when flows of 840 cfs were occurring in the Northwest Fork.

(Figure 10)

- Top salinities
  - North fork and outer estuary -- range from 15 to 30 ppt.
  - NW fork -- range from 1-5 ppt
  - SW Fork -- less than 1 ppt
- Bottom salinities --High tide
  - Most areas range from 25 -35 ppt.
  - South Fork and NW Fork upper reaches -- salinities are 20-25 ppt
- Bottom salinities -- Low tide
  - South fork bottom salinities are 15-20 ppt
  - Northwest fork range from 10 ppt to 35 ppt.

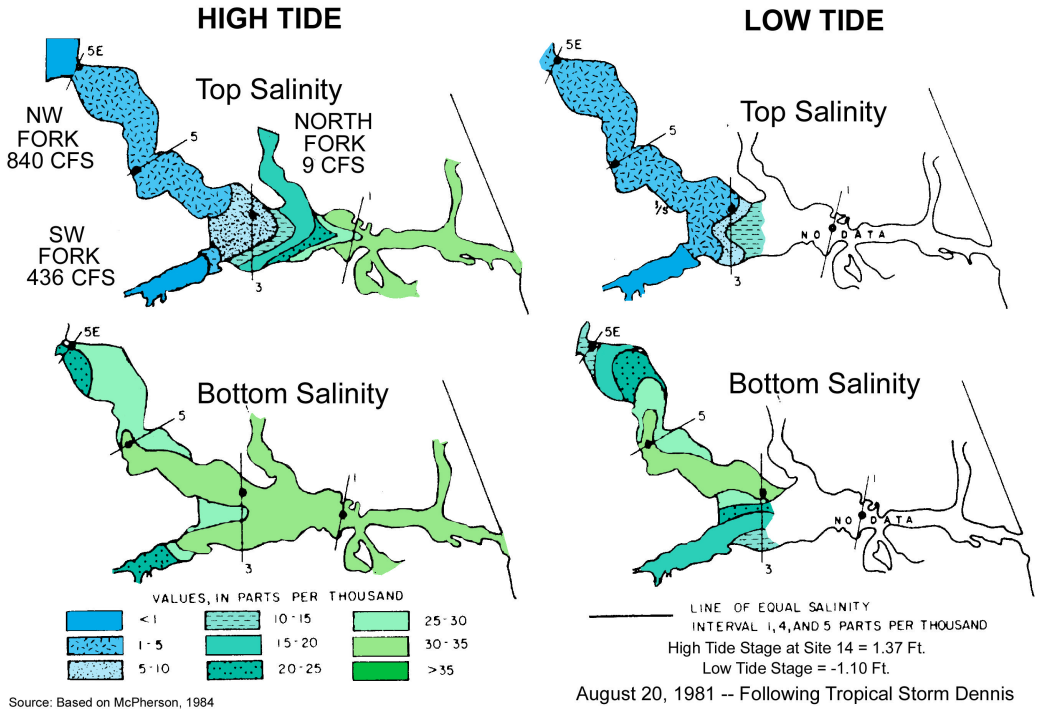

Figure F-1

Summary of salinity conditions in the Loxahatchee estuary during a typical wet season when flows of 104-113 cfs were occurring in the Northwest Fork (November 20-21, 1980).

(Figure 13)

- Top salinities
  - NW Fork. ranges from 10 to 35 ppt
  - Outer estuary ranges from 25 to 35 ppt
  - SW fork is 10-15 ppt
  - North Fork is 30 ppt or higher

- Bottom salinities high tide
  - Northwest fork ranges from 10 to 35 ppt
  - SW fork is 10-15 ppt
  - North Fork is 35 ppt or higher

- Bottom salinities at low tide
  - Northwest fork range from 25 - 35 ppt.
  - SW fork is 30-35 ppt
  - North Fork is 30-35 ppt

Some areas of the bottom experience rapid changes in salinity during the course of a tidal cycle.

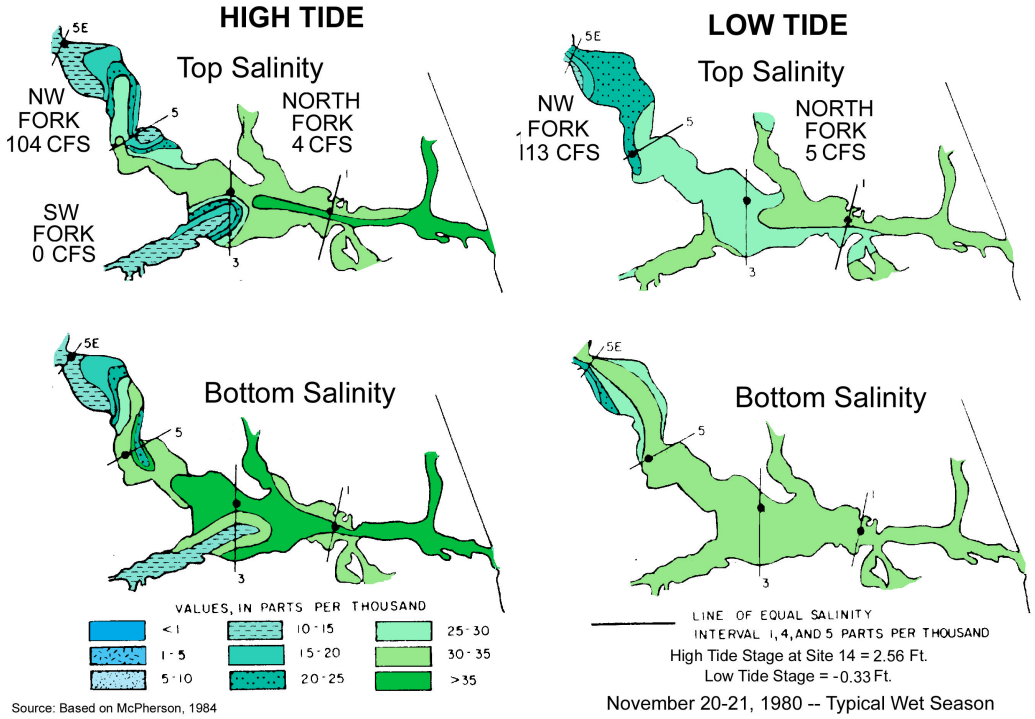

Figure F-2

Summary of salinity conditions in the Loxahatchee estuary during a typical dry season when flows of 30-60 cfs were occurring in the Northwest Fork (May 6-7, 1980).

(Figure 16)

- Top salinities
  - NW fork range from 20 -30 ppt
  - Outer estuary is 30 -35 ppt at low tide
  - Outer estuary is above 35 ppt at high tide.
  - North Fork is above 35 ppt at high tide.

- Bottom salinities
  - North Fork and South Fork are 25 ppt and above
  - Most of the estuary is above 35 ppt at high tide.
  -

Top and bottom salinities in the south Fork range from 30-35 ppt.

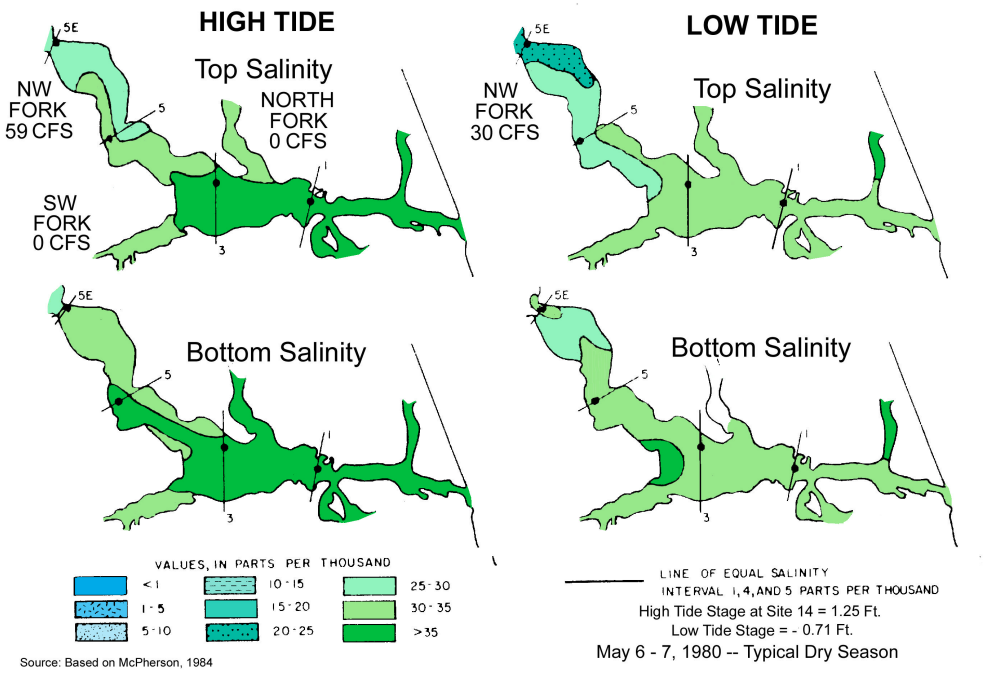

Figure F-3

Summary of salinity conditions in the Loxahatchee estuary during an extremely dry period with 9 cfs of flow occurring from the Northwest Fork (May 4, 1981).

Outer estuary is above 35 ppt.
Northwest and Southwest Forks range from 30 ppt to above 35ppt

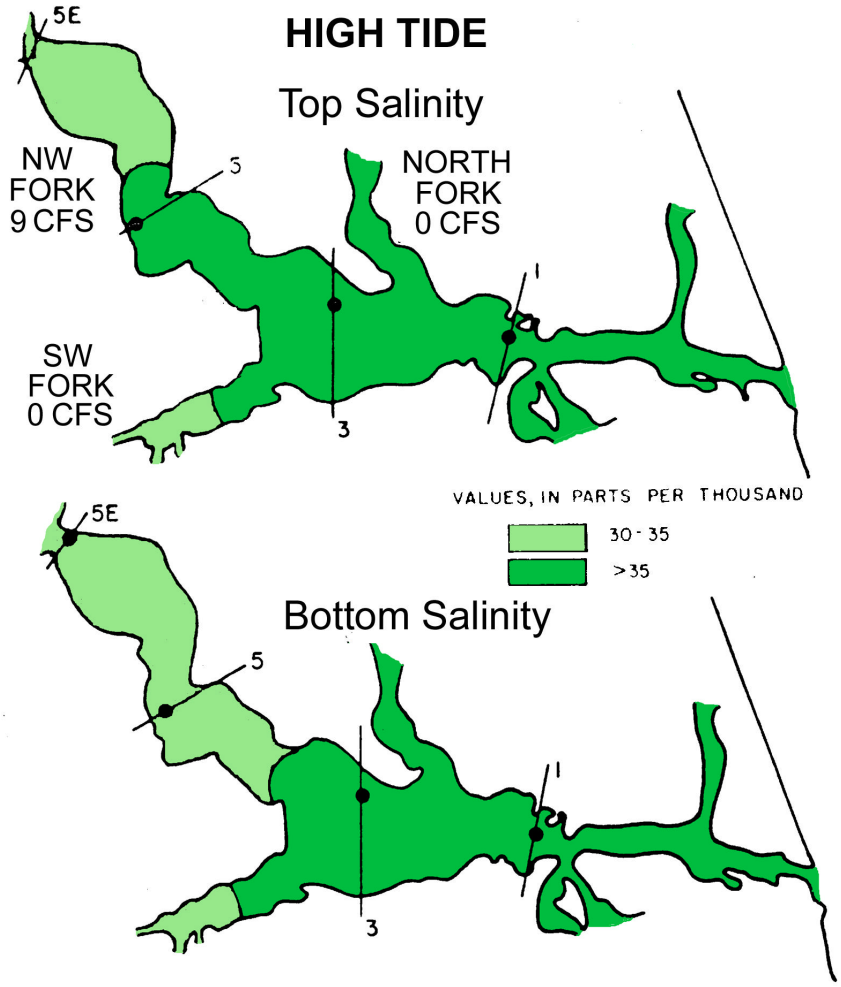

Figure F-4

Profiles of Estuary Showing Location and Extent of Saltwater-Freshwater Interface in the Northwest Fork under Various Flow Conditions (see reference Map (Figure F-6)

(Figure 5)

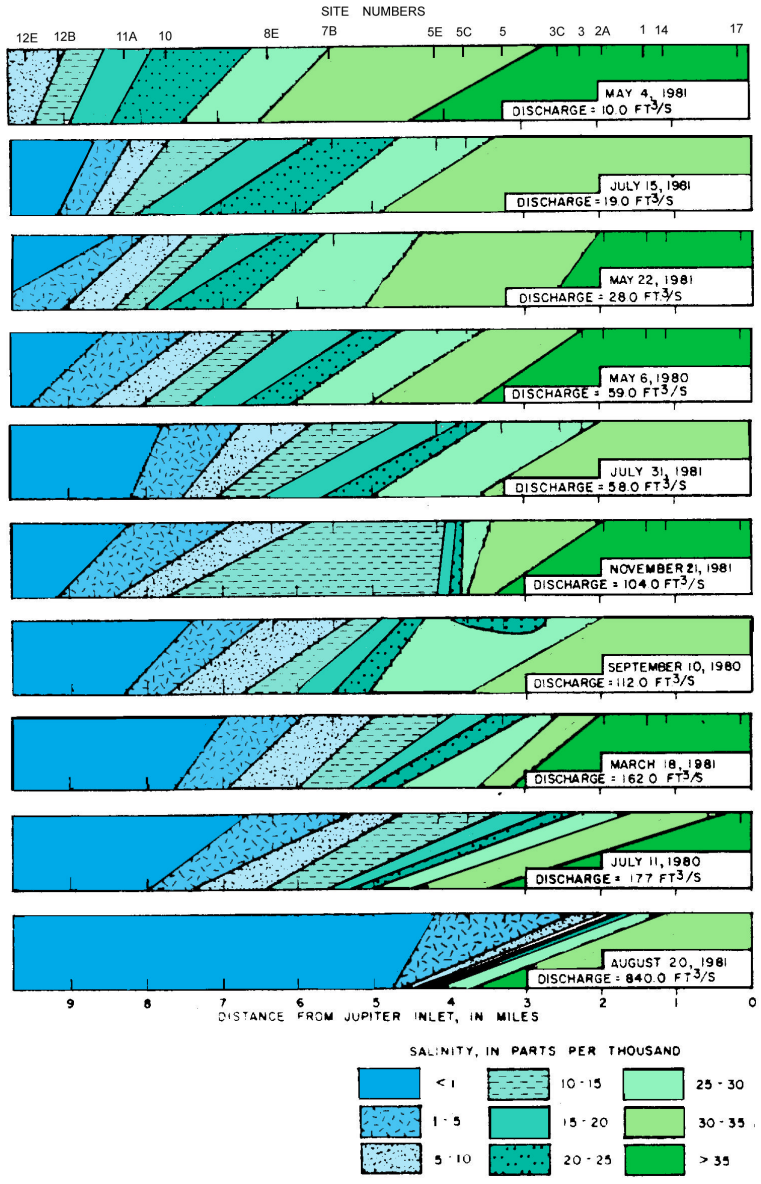

Figure F-5

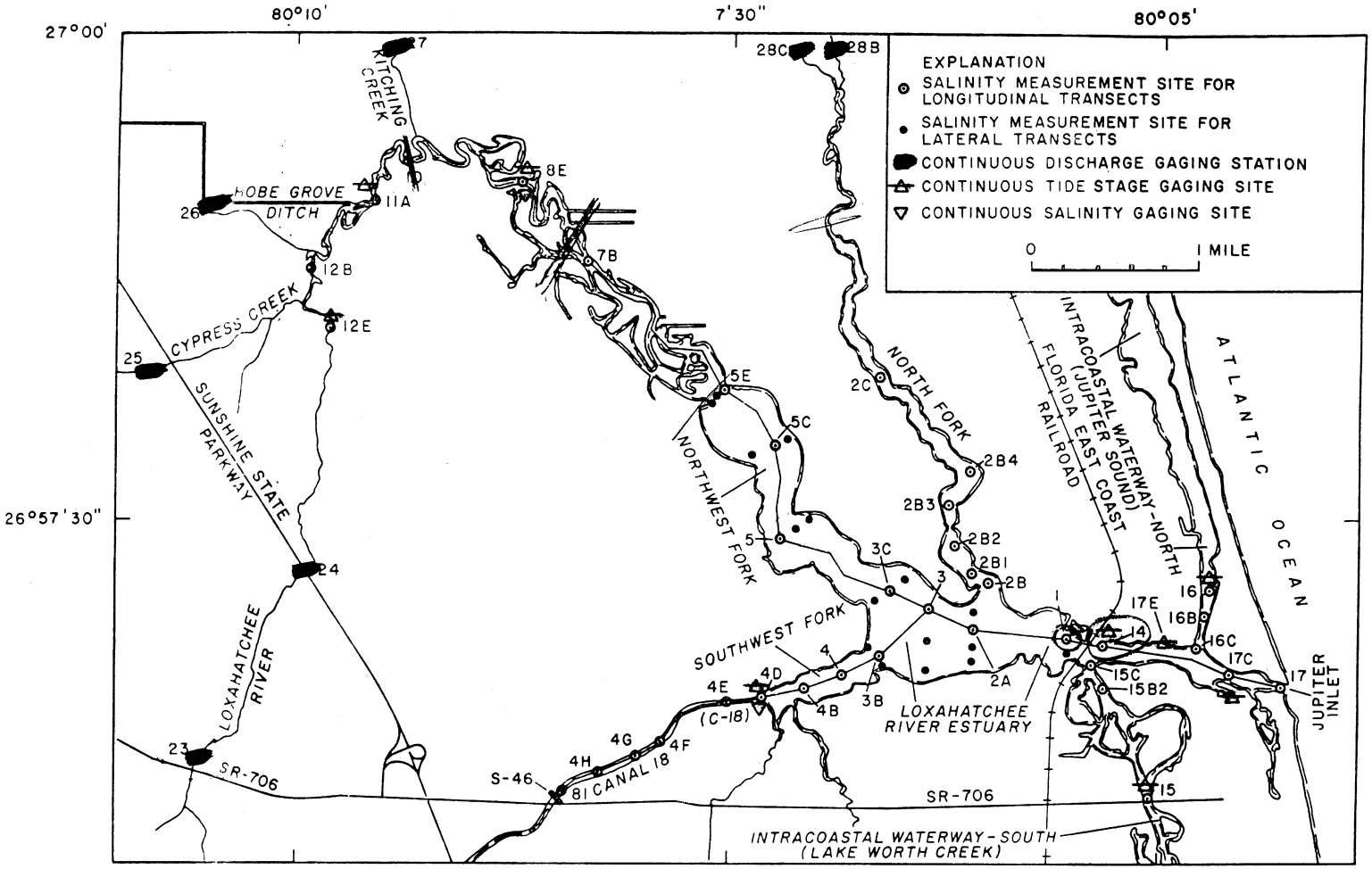

Figure F-6. Locations of Salinity Sampling Sites Used by Russell and McPherson 1984